

Section I. Amendments to the Claims

Please amend claim 1, and add claims 6-10, as set out below in the listing of claims 1-10 of the application.

1. (Currently amended) A semiconductor process system adapted for processing of or with a material therein, said system comprising: a sampling region for the material; an infrared radiation source constructed and arranged to transmit an infrared radiation beam through the sampling region; a thermopile detector constructed and arranged to receive infrared radiation after the transmission thereof of the infrared beam through the sampling region and to responsively generate an output signal correlative of said material; and a process control means controller arranged to receive the output of the thermopile detector and to responsively control one or more process conditions in and/or affecting the semiconductor process system.
2. (Original) The semiconductor process system of claim 1, wherein the material comprises a solid.
3. (Original) The semiconductor process system of claim 1, wherein the material comprises a fluid.
4. (Original) The semiconductor process system of claim 1, wherein the material comprises a liquid.
5. (Original) The semiconductor process system of claim 1, wherein the material comprises a gas.
6. (New) The semiconductor process system of claim 1, wherein the infrared radiation source comprises an infrared radiation lamp.
7. (New) The semiconductor process system of claim 1, wherein the infrared radiation lamp generates said infrared radiation beam in a wavelength range of from about 2 to about 4.6 μ m.
8. (New) The semiconductor process system of claim 1, wherein the infrared radiation source further comprises mirrors adapted to focus said infrared radiation beam.

9. (New) The semiconductor process system of claim 8, wherein the mirrors are adapted to multipass said infrared radiation beam multiple times across the sampling region to enhance detection limit of said thermopile detector.

10. (New) The semiconductor process system of claim 1, wherein the infrared radiation source generates said infrared radiation beam in a wavelength range of from about 2 to about 4.6 μ m.